3.9 Noise

3.9.1 Existing Conditions

3.9.1.1 Introduction to Sound Terminology

The human ear responds to a wide range of sound intensities. The decibel scale used to describe sound is a logarithmic rating system that accounts for the large differences in audible sound intensities. When addressing the effects of noise on people, it is necessary to consider the frequency response of the human ear. Therefore, monitoring instruments are designed to electronically filter the noise signal to emphasize frequencies within the response range of the human ear. The frequency-weighting most often used for this purpose is A-weighting, and measurements from instruments using this system are reported in A-weighted decibels or dBA. A-weighting has the effect of reducing measured levels of very low and very high frequencies, but has less filtering effect on the mid-range sound frequencies where speech and communication are important. The most common noise descriptor used for environmental noise assessments is dBA.

Typical sound levels of familiar noise sources and activities are presented in Table 3.9-1. The human perception of a doubling of loudness is reflected in the scale as an increase of 10 dBA. Therefore, a 70 dBA sound level would sound twice as loud as a 60 dBA sound level to most individuals. People's perception of noise increases depends on the nature of the background noise compared to the intruding noise. If the background noise is of the same character as the intruding noise (e.g., new traffic noise added to existing traffic noise), then people generally cannot detect differences less than 1 dBA. However, if the intruding noise is of a different character than the background noise (e.g., the whine of a new turbine superimposed onto rural background noise) then the intruding noise could be easily discernible even if it adds less than 1 dBA to the background noise level.

A variety of statistical methods are used to characterize noise that varies with time. An indication of average sound levels is provided by a noise measurement known as the equivalent sound level (Leq). The Leq is the level of a constant sound that has the same sound energy as the actual fluctuating sound. It is important to specify the time period being considered. Leq(24), for example, is the equivalent sound level for a 24-hour period. The day-night sound level (Ldn) is similar to the Leq(24) except that a 10 decibel "penalty" is added to sound levels, artificially raising nighttime noise sources between 10 p.m. and 7 a.m. to apply more stringent standards of compliance at that time. Variations in sound levels over time during any measurement period are characterized by the "statistical noise level" Ln. The Ln represents the noise level that is exceeded n% of the time during the measurement period. For example, L2 is a relatively loud noise level that is exceeded only 2% of the time, while the L90 is a relatively quiet noise level that is exceeded 90% of the time.

Table 3.9-1. Common Sound Levels/Sources and Subjective Human Responses

Thresholds/ Noise Sources	Sound Level (dBA)	Subjective Evaluations[1]	Possible Effects on Humans
Human threshold of pain Carrier jet takeoff (50 ft)	140	Deafening	Continuous exposure to levels above 70 can cause hearing loss in majority of population
Siren (100 ft) Loud rock band	130		
Jet takeoff (200 ft) Auto horn (3 ft)	120		
Chain saw Noisy snowmobile	110		
Lawn mower (3 ft) Noisy motorcycle (50 ft)	100	Very loud	
Heavy truck (50 ft)	90		
Pneumatic drill (50 ft) Busy urban street, daytime	80	Loud	
Normal automobile at 50 mph Vacuum cleaner (3 ft)	70		Speech interference
Large air conditioning unit (20 ft) Conversation (3 ft)	60	Moderate	
Quiet residential area Light auto traffic (100 ft)	50		Sleep Interference
Library Quiet home	40	Faint	
Soft whisper (15 ft)	30		
Slight rustling of leaves	20	Very faint	
Broadcasting studio	10		
Threshold of human hearing	0		

[1] Note that both the subjective evaluations and the physiological responses are continual without true threshold boundaries. Consequently, there are overlaps among categories of response that depend on the sensitivity of the individuals exposed to noise.

3.9.1.2 Noise Standards and Guidelines

Regulatory Noise Limits

The Washington Administrative Code (173-60 WAC) provides the applicable noise standards for Washington State, including Walla Walla County. The county has not promulgated independent state-approved noise standards pursuant to 173-60-110 WAC. The Washington regulation specifies noise limits at the receiving property for three types of land which roughly correspond to residential, commercial/recreational, and industrial/agricultural uses:

- Class A: Residential property where people reside and sleep
- Class B: Commercial and recreational property requiring protection against noise interference with speech
- Class C: Industrial and agricultural property where economic activities are of such a nature that higher noise levels are anticipated

As used in this section, “noise-sensitive areas” are equivalent to Class A residential areas, and the operations associated with the proposed project are equivalent to industrial activities. Table 3.9-2 summarizes the maximum permissible levels applicable to noise received at residential areas and at industrial/agricultural areas for noise emitted from an industrial facility.

The following activities are exempted from the noise limits presented in Table 3.9-2 (per 173-60-050 WAC):

- Construction noise between the hours of 7 a.m. and 10 p.m.
- Alarms and safety devices

Table 3.9-2. State of Washington Noise Regulations (173-60-040 WAC)

	Maximum Permissible Noise Levels at Receiving Property (dBA) for Noise Emitted by Industrial Source		
	Residential Receiver		Industrial or Agricultural Receiver
Statistical Descriptor	**Daytime (7 a.m. – 10 p.m.)**	**Nighttime (10 p.m. – 7 a.m.)**	**Anytime**
Leq	60	50	70
L25	65	55	75
L8	70	60	80
L2.5	75	65	85
Note: Standard applies at the property line of the receiving property. Source: WAC 173-60.			

Impact Criteria for Low-Frequency Noise

A phenomenon described as "infrasound vibration" can sometimes occur in connection with combustion turbine installations, primarily combustion turbines installed in a simple cycle configuration, different from the combined cycle configuration proposed for the Wallula Power Project. Low-frequency noise can couple with wood frame walls and windows to cause a mild but perceptible vibration. While these sound levels are virtually inaudible, the vibration may cause an adverse reaction to facility noise.

Combustion turbines are capable of producing high levels of low-frequency noise (defined as frequencies of less than 64 Hertz [Hz]). This noise is generated by the exhaust gas. In simple cycle configurations the exhaust gas passes through an exhaust silencer. In combined-cycle configurations (as proposed for the Wallula Power Project) the exhaust gas passes through the HRSG equipment, which reduces the low-frequency combustion noise associated with turbine operation.

There are no regulatory limits on low-frequency noise applicable in Walla Walla County. However, there are several recommendations for low-frequency noise limits to ensure protection from low-frequency noise disturbance. The American National Standards Institute Bulletin S12.9-1996/Part 4 (Quantities and Procedures for Description and Measurement of Environmental Sound, Part 4: Noise Assessment and Prediction of Long-term Community Response) states that "Generally, annoyance is minimal when octave-band sound pressure levels are less than 65 dB at 16, 31.5 and 63-Hz midband frequencies."

Furthermore, the State of Oregon has established octave band noise limits (Oregon Administrative Rule [OAR] 340-035-0035, Noise Control Regulations for Industry and Commerce), which are relevant guideline for low-frequency noise limits at power plants. The Oregon rule limits low-frequency noise levels at residential receivers to 65 dB at the 31 Hz octave band and 62 dB at the 64 Hz octave band.

Based on the above guidelines, it is concluded that low-frequency noise levels below 65 dB in the 32 Hz and 64 Hz octave bands would not pose any significant noise impacts.

Impact Criteria for Noise Increases at Residential Areas

The Environmental Protection Agency (EPA) and other federal agencies have long acknowledged that substantial noise increases at residential areas constitute significant noise impacts. For this assessment the noise impact criteria developed by the Federal Transit Administration (FTA 1995) were used to evaluate noise increases at the home nearest the power plant. FTA is a transit agency that has no legal jurisdiction over power plant projects, but the noise criteria developed by FTA are generally applicable for assessing noise increases caused by industrial facilities that operate on a 24-hour basis. The FTA criteria use the 24-hour day-night noise level (Ldn) as the noise metric for residential areas. Significance levels of "Severe Impact," "Impact," or "No Impact" are assigned based on the Ldn noise increase above background caused by the new industrial activity.

3.9.1.3 Existing Sound Levels

Plant Site and Nearby Receivers

The primary sources of noise in the project vicinity are traffic on U.S. Highway 12 and Dodd Road and industrial facilities in the area, which include the Boise Cascade Corporation Wallula Mill, Iowa Beef Processors slaughterhouse, Ponderosa Fibers of Washington deinking plant, and J.R. Simplot Company feedlot. Other notable sources of noise include trains, occasional aircraft overflights, and a transformer unit located off Dodd Road. The nearest residential property and dwelling not located on the project site would be the Location 1 home approximately 4,000 feet from the nearest cooling tower, which would be the nearest piece of operating equipment. The nearest residence across the river would be approximately 13,000 feet away.

Ambient sound levels were measured at six locations (as shown on Figure 3.9-1) in the vicinity of the project site from September 9 through 12, 2000, under ambient conditions of light rain and relatively calm winds of 1-5 mph, with a stronger breeze out of the southeast at 3-8 mph on September 10, 2000. The following information describes the measurement locations.

- Location 1 (nearest house): Located south of one of the Location 1 Orchards garages, approximately 200 feet south of Dodd Road and 800 feet east of U.S. Highway 12. This location was chosen to document existing ambient sound levels at the Location 1 residence, which is the dwelling closest to the generation plant site. The ambient sound level here is primarily influenced by traffic on Dodd Road, traffic on U.S. Highway 12, residential activities, trains, impulsive sound from the Boise Cascade Corporation Wallula Mill, local electric transformers located off Dodd Road, and passing aircraft.

- Location 2: Located approximately 500 feet south of Dodd Road and 3,850 feet east of U.S. Highway 12. Location 2 is west of the railroad tracks and the Iowa Beef Processors slaughterhouse facility. This location was chosen to document existing ambient sound levels in the vicinity of the Iowa Beef Processors slaughterhouse. The ambient sound level here is primarily influenced by the Iowa Beef Processors slaughterhouse, traffic on Dodd Road, trains, traffic on U.S. Highway 12, impulsive sound from the Boise Cascade Corporation Wallula Mill, and passing aircraft.
- Location 3: Located at the east edge of the project site, approximately 3,200 feet east of U.S. Highway 12. This location was chosen to document existing ambient sound levels on the project site. The ambient sound level here is primarily influenced by traffic on U.S. Highway 12, the Iowa Beef Processors slaughterhouse, the J.R. Simplot Company feedlot, trains, the Boise Cascade Corporation Wallula Mill, passing aircraft, and the local irrigation system.
- Location 4: Located at the south edge of the project site, approximately 1,200 feet east of U.S. Highway 12. This location was chosen to document existing ambient sound levels on the project site. Primary influences on the ambient sound level here are the Boise Cascade Corporation Wallula Mill, J.R. Simplot Company feedlot, traffic on U.S. Highway 12, the Iowa Beef Processors slaughterhouse, trains, passing aircraft, and the local irrigation system.
- Location 5: Located near the southern end of the Peninsula Habitat Management Unit directly west of the project site. Location 5 was chosen to document existing ambient sound levels on the wildlife habitat. The ambient sound level here is primarily influenced by the waves on the shore, distant traffic, trains, crickets, and passing aircraft.
- Location 6: Located at the southeast part of the residence at 247807 Toothaker Road on the opposite side of the Columbia River from the project site, approximately 13,000 feet from the project site. Location 6 was chosen to document existing ambient sound levels in the vicinity of residences located on the west bank of the Columbia River. The ambient sound level here is primarily influenced by the traffic on Toothaker Road, residential/farm activity, distant trains, passing aircraft, and the Boise Cascade Corporation Wallula Mill.

Table 3.9-3 lists the range background noise levels that were measured. The measured background day-night noise level (Ldn) at the nearest residence (the Location 1 house) was 57 dBA.

Table 3.9-3. Recorded Sound Level Ranges

Receiver Location	Range of Measured Leq Values (dBA)
1 - Location 1 residence	45-67
2 - Near Iowa Beef Processors	44-70
3 - East edge of project site	43-71
4 - South edge of project site	37-69
5 - Southern end of Peninsula Habitat Management Unit	34-84
6 - Residence at Toothaker Road on opposite side of Columbia River	32-69

Water Pipeline, Transmission Line, and Natural Gas Pipeline

The existing sound levels along the water pipeline, transmission line, and natural gas pipeline were not measured. It is expected that sound levels are low, and similar to those measured at the nearest dwelling (location 1 for the baseline monitoring at the power plant site).

3.9.2 Impacts of the Proposed Action

3.9.2.1 Construction

Generation Plant

During the construction phase of the proposed project, noise from construction activities would add to the noise environment in the immediate area. Such activities would generate noise levels as indicated in Table 3.9-4. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. Based on the typical attenuation of sound over distance (6 dBA per doubling of distance), construction noise levels at the nearest residence north of the project site would seldom exceed ambient background levels. Any construction activity that could generate noise levels at the nearest residence exceeding 60 dBA would be scheduled for daytime periods.

The largest noise during construction typically occurs during steam cleaning of the piping systems. This activity consists of a series of short steam blows at varying pressures, lasting 2 or 3 minutes each, and occurs over a period of several weeks. These steam blows could produce noise as loud as 130 dBA at a distance of 100 feet and as loud as 98 dBA at the nearest residence. To reduce the impact of such a loud noise, a steam blow exhaust silencer would be used to reduce the noise level approximately 20 dBA during the steam blows.

For all noise sources, noise impacts would be reduced by the use of appropriate mufflers on construction equipment, and hearing protection for construction workers and operations employees. Construction noise impacts would also be mitigated, if necessary, by means of noise reducing panels, temporary barriers, or portable screens, and by locating noisy equipment as far from sensitive receptors as possible.

The expected construction noise, as reduced by procedures committed to by the applicant, would not be expected to produce significant impacts at the nearest residence.

Table 3.9-4. Typical Construction Equipment Noise

Activity	Type of Equipment	Range of Noise Levels (dBA) At 200 feet	Range of Noise Levels (dBA) At Nearest (Location 1) Residence
Material handling	Concrete mixers	62 to 75	37 to 50
	Concrete pumps	69 to 71	44 to 46
	Cranes	64 to 76	39 to 51
	Cherry-picker	65 to 85	40 to 60
	Forklift	60 to 80	35 to 55
	Crane	65 to 85	40 to 60
	Service truck	57 to 77	32 to 52
	Pick-up truck	45 to 65	20 to 40
Stationary equipment	Pumps	57 to 59	32 to 34
	Generators	59 to 70	34 to 45
	Compressors	64 to 75	39 to 50
	Welder	56 to 76	31 to 51
Land clearing	Bulldozer	65 to 84	40 to 59
	Dump truck	70 to 82	45 to 57
	Backhoe	65 to 85	40 to 60
Grading	Scraper	68 to 81	43 to 56
	Bulldozer	65 to 84	40 to 59

Water Pipeline

Construction of the 4-inch water pipeline would be done using conventional construction equipment such as backhoes, front end loaders, and dump trucks. The construction operations would not produce significant noise impacts if construction was limited to daytime hours. The construction activity would produce temporary, localized noise that would affect receivers adjacent to the construction site.

Transmission Line

Noise levels produced by construction of the transmission line towers would depend on the specific construction methods to be used to install tower foundations and to erect the steel towers. It is anticipated that construction would be restricted to daytime hours, in which case the construction operations are exempted from Washington state noise regulations. Construction of the tower footings would produce noise from the following operations:

- Construction of access roads and temporary spur roads to each tower location.
- Grading, excavation, and concrete pouring for the foundations at each tower location.
- Possible daytime blasting, if required at some tower locations.

Conventional construction equipment would be used for these operations. Construction noise near each tower location would be localized and temporary. Based on the types of equipment typically used, the operations could cause disruptive noise levels as far as 500 feet from each tower. However, there are no existing dwellings within 500 feet of the transmission line corridor, so it is unlikely that footing construction would cause any significant noise impacts.

Noise levels generated during erection of the towers would depend on whether the contractor elected to use helicopters for tower placement. If helicopters were used, then the contractor would assemble the steel towers at one or more central staging areas, then use a helicopter to transfer the assembled structures to each tower location for erection. A large sky-crane helicopter would be used to transfer and place the tower structures on the preconstructed footings. The helicopter would hover at each tower location for a total of roughly 5 to 15 minutes in a 1-hour period to complete each tower erection. Similarly, the helicopter would hover at the central staging area for up to 5 minutes for each tower while it transfers tower sections to the remote construction site. A typical sky-crane helicopter produces noise equivalent to a railroad locomotive, and the helicopter operations would generate disruptive noise levels as far as 0.5 mile from the staging areas and tower locations. Assuming the tower erection was done during the daytime, the helicopter noise would be exempt from Washington state noise regulations. However, regardless of regulatory status the helicopter operations could cause localized, temporary noise impacts at homes or businesses located near the central staging areas or tower locations.

Natural Gas Pipeline

See earlier discussion for the water supply pipeline.

3.9.2.2 Operation and Maintenance

Generation Plant

Modeling Approach

A noise modeling program, CadnaA, version 3.0, was used as the basis to evaluate the noise emissions of the Wallula Power Project. The program is essentially a three-dimensional allocation and tabulation of all the individual pieces of equipment (i.e., "sources") within the power plant that emit significant levels of sound. The purpose of the program is to calculate the far field sound pressure level for each piece of equipment, at one or more physical points of interest inside or outside the power plant (i.e., "receptors"). The computer program totaled the sound pressure values from all individual sources to establish the overall power plant sound level at the receptor of interest. To determine sound levels at multiple receptors, the program exercise is repeated for each receptor.

The program for the Wallula Power Project utilized the preliminary power plant layout and equipment list developed by the applicant to estimate sound levels at the power plant property lines and other points of interest. Once the 3-dimensional physical size and arrangement of the power plant equipment and structures were modeled, the initial shielding effects were then calculated. The program output demonstrated sound levels emitted with the power plant operating under steady state, full load operating conditions, with all modeled equipment running at design load.

Modeled Noise Sources

Noise source inputs to the program were obtained from first-hand field measurements of similar or identical equipment in operation at existing combined cycle facilities. The initial baseline sound power levels used (see Table 3.9-5) are representative of the installed performance of the planned plant equipment and include specific noise attenuation treatments for the combustion turbine air inlets, generation step-up transformers and gas pressure reducing station. Examples of the types of measures that were programmed are combustion gas turbine inlet silencers, auxiliary boiler fan inlet silencers, steam turbine-generator weather enclosures, transformer shielding, gas pressure reducing valve enclosures, etc.

Table 3.9-5. Wallula Power Project Noise Sources

Source	Number of Units	Height (Meters)	Approximate Sound Pressure Level At 1 Meter (dBA)
Combustion gas turbine transformers (1)	4	3	102
Combustion gas turbine air inlets (1)	4	20	95
Combustion gas turbine air inlet ducts (1)	4	6	104
Combustion gas turbine generators (1)	4	6	107
Combustion gas turbine enclosures (1)	4	6	107
Combustion gas turbine exhaust ducts (1)	4	4	105
HRSG inlet sides	4	10	108
HRSG side walls	4	12	102
HRSG stacks	4	53	110
Steam lines	4	25	102
Pipe rack steam lines	4	7	105
Burner control skid	4	1	110
Combustion gas turbine enclosure vent fans	8	7	102
Boiler feed pumps	6	2	112
Turbine building, north wall (1)	1	20	110
Turbine building, west wall (1)	1	20	103
Turbine building, east wall (1)	1	20	103
Turbine building, south wall (1)	1	20	109
Turbine building, roof (1)	1	29	104
Turbine building, roof vent fans (1)	8	30	90
Turbine generator transformers	2	3	102
Gas pressure reducing station	1	3	110
Auxiliary boiler Stack	1	15	108
Circulating water pumps	6	2	108
Cooling tower exhausts	18	18	106
Cooling tower northwest inlets	18	4	99
Cooling tower southeast inlets	18	4	99

Modeled Noise Levels

The operational equipment noise levels were projected for two residential receptors (the nearest house to the north and the house across the Columbia River) and at the project property lines to the west, south, and east of the power plant. The nearest residential property (the Location 1 house) is located approximately 4,000 feet from the nearest piece of operating equipment, the cooling tower. The nearest resident across the Columbia River is approximately 13,000 feet away. The project site is immediately surrounded on three sides by agricultural-industrial-heavy zoned property and by U.S. Highway 12 on the fourth side.

Agricultural fields and orchards owned by local residents are located north of the project site. The nearest nonagricultural-industrial-heavy zoned property across U.S. Highway 12 is the McNary National Wildlife Refuge, which is zoned rural. The project site is used for agriculture with the surrounding land occupied by the J.R. Simplot Company feedlot, the Iowa Beef Processors slaughterhouse, and land for composting activities by the Boise Cascade Corporation Wallula Mill.

Modeled steady-state noise results are shown in Table 3.9-6. As shown in the table, the modeled noise levels are lower than the allowable limits specified by the Washington regulation.

Table 3.9-6. Modeled Power Plant Sound Levels at Receptors

Location	Receiver/Location	Modeled Sound Level (dBA)	Allowable Noise Limit
1	Nearest house north of power plant (residential)	46.0	50 (Nighttime)
2	Nearest house across the Columbia River (residential)	22.0	50 (Nighttime)
PL-1	Property line northwest of power plant (Highway 12)	53.5	70 (Daytime or nighttime)
PL-2	Property line west of power plant (Highway 12)	57.8	70 (Daytime or nighttime)
PL-3	Property line south of power plant (Industrial)	64.3	70 (Daytime or nighttime)
PL-4	Property line east of power plant (Industrial)	65.3	70 (Daytime or nighttime)

Increase in Ambient Noise Levels

Modeling results indicate the proposed project would not significantly increase noise levels at the nearest residential receiver (Location 1).

The proposed turbines would operate 24 hours per day and would slightly increase noise levels at the closest existing residence, where people sleep and where existing nighttime noise levels are currently low. Although there are no regulatory limits in Washington regarding an allowable increase above background caused by industrial projects, the environmental impacts caused by noise increases were assessed based on the most recent Federal Transit Administration guidance (FTA 1995).

The applicable FTA guidance is based on increases in the day-night noise level (Ldn). The impact assessment focused on noise increases at the closest residence (Location 1). The background Ldn was directly measured by the applicant. The modeled future Ldn was estimated by adding the noise produced by the proposed project to the measured background noise.

Comparison of the future and existing Ldn at the nearest home indicates "No Impact" based on FTA impact designations, as illustrated below:

Background Ldn	57 dBA
Modeled future Ldn	58 dBA
Ldn increase	1 dBA
FTA impact designation	No Impact

Low-Frequency Noise

Modeling indicates the proposed project would not cause any significant low-frequency noise levels at the nearest residence. As indicated earlier, a low-frequency impact criterion of 65 dB at the 32 Hz and 64 Hz octave bands was assumed for this assessment.

The modeled octave band noise levels at the closest residence (Location 1) are 57 dB and 57 dB for the 32 Hz and 64 Hz octave bands, respectively. These low-frequency noise levels are below the 65 dB impact criteria. Therefore, no adverse reaction to low-frequency noise is anticipated at the nearest residence or other nearby receivers.

Water Pipeline

The water supply pipeline would include no large pumps that might be expected to produce noise. Therefore, no significant noise impacts are anticipated along the pipeline route.

Transmission Line

The only noise associated with operation of the transmission line would be corona noise during infrequent wet or foggy weather. Corona noise is a low-frequency hum (120 Hz) and crackling caused by partial breakdown of the insulting properties of air surrounding the electrical conductor of the transmission line. The corona noise is estimated to produce L50 noise levels less than 48 to 52 dBA at the transmission line right-of-way (Bracken 2001 as cited by Wallula Generation 2001). Thus, the maximum noise produced by the corona would be less than the Washington state allowable noise limits at all commercial areas and residential areas outside the right-of-way. There are no existing dwellings within the right-of-way, so corona noise would not pose any significant noise impacts.

Natural Gas Pipeline

See earlier discussion for the water supply pipeline.

3.9.3 Impacts of Alternatives

3.9.3.1 Alternative Tower Height and Longer Span Design

Noise emissions would not change as compared to the proposed action.

3.9.3.2 Alternative Alignment near McNary Substation

Noise emissions would not change as compared to the proposed action.

3.9.3.3 No Action Alternative

Under the No Action Alternative, the power plant and pipelines would not be constructed and there would be no noise impacts generated.

3.9.4 Mitigation Measures

3.9.4.1 Construction

If helicopters were used to construct the transmission line, then they could cause localized, temporary noise impacts at homes and businesses near the staging areas and tower locations. The construction contractor should be required to develop a helicopter noise control program to minimize noise impacts to the extent practicable. This could be done by selecting flight paths that minimize exposure to residential and commercial areas, provided that those flight paths comply with air safety regulations and safe operating practices.

3.9.4.2 Operation and Maintenance

The noise control measures proposed by the applicant were modeled to reduce noise levels to below regulatory limits and environmental impact thresholds. Therefore, no additional noise mitigation measures are warranted.

3.9.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to noise levels are associated with construction or operation of the generation plant, pipelines, or transmission line.